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The Promise, Reality and Maturity of E-Learning Standards

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The function of using training to distribute information to employees is an essential aspect of today's corporate environment. To date, most corporations have incorporated at least some e-Learning into their training programs; however, many have found that the reality of the e-Learning solution falls short of the promise. E-Learning can be a cost- and time-effective method of delivering training but only when all of an organization's training information can be centrally managed.

Without a central application to manage training information, the information becomes fragmented. Departments within an organization are unable to access and share resources with each other. With user data and content residing in disparate systems, organizations have no way of consolidating training data and generating enterprise-level reports to show that established training goals are being met. Furthermore, without a centralized software application to manage training information, the administrative burden and cost of training can actually increase with the introduction of e-Learning.

To gain the promised return on investment, early adopters of e-Learning continue to actively seeking the successful integration of the various components that comprise their e-Learning solution. When all the various courseware, computer applications and hardware required for the delivery of e-Learning are integrated, they can exchange information quickly and accurately, ultimately sending that information to the central management system. Having all training information accessible from a single point allows for the most effective learning management at any organization because it allows for shared access of training resources and provides the ability to generate enterprise-wide reports on training initiatives. Thus, it is not e-Learning itself, but rather the effective product integration among the various components of an e-Learning solution, that is the key to realizing the benefits of e-Learning. Without integration, the individual components will never form a true enterprise solution that delivers the promise of e-Learning.

Fortunately, the constituents of the e-Learning industry have recognized the benefit of

interchangeable parts and integration, and have worked together to create a set of standards. In the software world these standards take the form of communication protocols. For a specification to become the industry standard and gain wide acceptance, it needs to be well defined, easy to implement, and embraced by the leading vendors.

Of the e-Learning standards, AICC and SCORM are the most popular and widely recognized protocols. They are intended to define how each component of an e-Learning solution should talk with every other component of the solution?assuming each product abides by the protocol. By embracing these communication standards and protocols, the e-Learning industry has been able to advance the information exchange necessary to support enterprise-level e-Learning solutions. Why is it then that a recent paper by Bersin & Associates states "experienced e-Learning managers do not rely on these (standards) specifications to help them make vendor choices?" The potential answer is as complex as the problem the standards are attempting to solve.

Standards Maturity Model

The challenge with existing industry standards lies not in vendor intent or e-Learning industry capability, but rather in the industry?s relative immaturity. A recent paper by Ross Altman, CTO of See Beyond, offers a rational model for evaluating the maturity of standards. He adapts the Software Engineering Institute's five-level Capability Maturity Model into one that can be applied to the standards landscape. Altman?s five-level Standards Maturity Model can be summarized as follows:

Level 1: Many recognize the problem

Level 2: Version 1.0 of the standard is proposed

Level 3: "Functionally adequate" version of the standard is approved

Level 4: Many applications use the "functionally adequate version" of the standard

Level 5: "Functionally adequate" version is ubiquitous

Altman goes on to further state that in the world of web services, only TCP/IP, HTTP and SSL have reached Level 5 maturity. XML, he reasons, is currently Level 4 and other well-known standards such as SOAP and WSDL are currently at Level 3.

The Maturity of e-Learning Standards

Evaluating the maturity of e-Learning standards with Altman's model as a backdrop makes for an interesting exercise. Though AICC is currently at version 3.5 and

SCORM at version 1.2, the key question is whether or not they are currently "functionally adequate," meaning they can effectively address the needs for which they were initially developed. In the world of AICC, that means effective loading, launching and tracking of AICC-compliant courses by AICC-compliant learning management system (LMS). In the world of SCORM, that means the effective creation of reusable learning content as "instructional objects."

Current e-Learning standards are best referred to as a set of guidelines or specifications rather than a specific set of rules or standards. It is up to each vendor to interpret the specification to best meet the needs of their respective products. In fact, most e-Learning vendors have interpreted the specifications differently. For example, one of the most consistently vexing gray areas in the AICC standard is around reporting course results. AICC specifies that a course may return three values: raw score, maximum value and minimum value. Further, AICC states that the course only has to return the raw score and that the value of the raw score can be defined by the course vendor. This leads to errors such as the LMS interpreting the raw score returned by the course as the percent complete, so a learner who correctly answers 12 out of 15 questions receives a failing grade of 12 percent instead of a passing grade of 80 percent.

Further, existing specifications do not take into account the actual location of e-Learning components. In today's distributed enterprise, different e-Learning components may need to be located in different locations. For example, an e-Learning infrastructure might include a LMS located behind the organization's firewall, content hosted by a courseware vendor and other content that customers or partners access from an extranet. In this example, training results are often blocked from updating the LMS by stringent IT security practices including firewalls that are intended to prevent unauthorized entry into an organization's private network, and in this case prevent authorized entry as well.

Given these examples, AICC and SCORM are perhaps at Level 2.5 of maturity: the current specifications have been approved by the industry, but some functional challenges remain.

Going the Last Mile

E-Learning standards have indeed saved organizations both time and money in their need to integrate components from multiple vendors into a comprehensive solution. However since the typical cost to integrate a large courseware library into a LMS starts at \$150,000, according to Bersin & Associates, there is clearly the need for a "last mile" solution, one that will truly fulfill the potential of the standards. As is the case in most maturing industries, a product will rise to the top that meets this goal and in so doing becomes the de-facto standard that enables customers to reap the benefits it promised in the first place. Database vendors did this for SQL. Networking vendors

did this for TCP/IP. It is only a matter of time before an e-Learning vendor comes to the forefront with a product that productizes and propels standards and by extension, the whole industry forward.